



## Platform Manager Integration with Platform LSF<sup>®</sup>

*Hardware resources are often managed independently of the applications running on them. However, in order to maintain an efficient environment and provide users with the highest service levels, it is important that infrastructure management is integrated with application workload management. This document describes how Platform Manager enables you to do just that by integrating with Platform LSF workload management software.*

### Deployment and configuration management

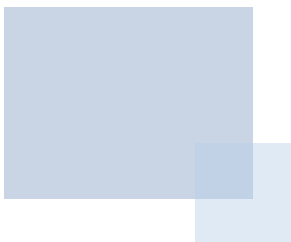
Platform Manager provides full installation and configuration of Platform LSF. Easy mouse-click functionality enables the designation of a system as one of three types of Platform LSF hosts: master candidate, static host, or dynamic host. Platform Manager automatically installs and configures the system accordingly. Furthermore, Platform Manager updates the Platform LSF server with ongoing changes in the cluster, such as node additions or deletions. This integration ensures that the installation is fully automated and minimizes the need for previous system and interconnect knowledge.

Platform Manager provisions a fully functional cluster, including both the infrastructure and the queuing system, which is readily available for use immediately after installation. Platform Manager also allows cluster administrators to select the version of Platform LSF making it easy to upgrade or downgrade Platform LSF through the Platform Manager interface.

### On-going operations & troubleshooting

By integrating with Platform LSF, Platform Manager enables the system administrator to use a single interface to view system usage information in the context of currently running applications. The overall status view provides a continuous summary of the total system load.

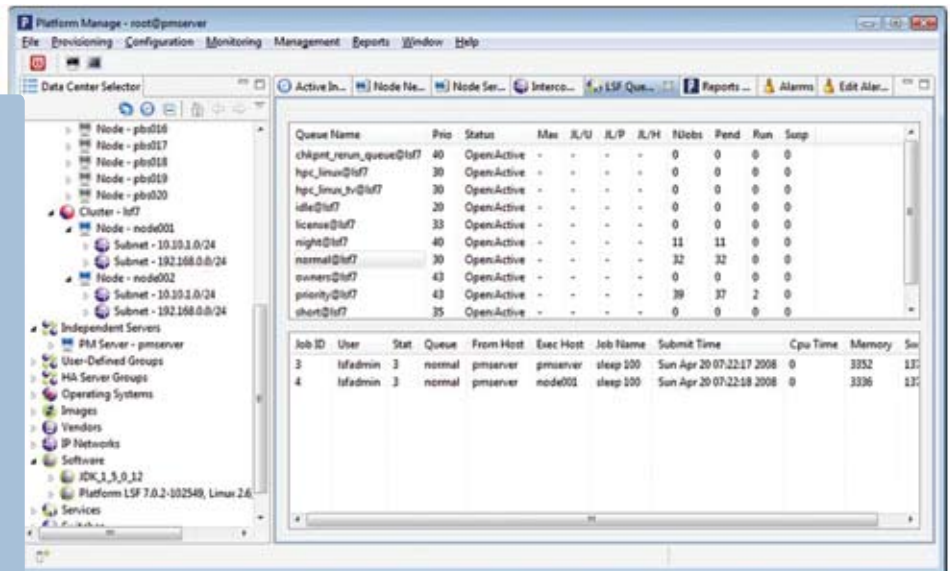
Detailed information on individual jobs or queues can be brought up with a simple menu selection. Once a job is selected, the user can quickly view any monitoring data for the nodes on which the job is running. The ability to monitor both functions from one interface lets the administrator quickly correlate jobs with relevant infrastructure information. This significantly streamlines the troubleshooting of application performance problems, and enables ongoing resource optimization and capacity planning.



## Total Platform Solution

### – Fastest, most scalable on the market

Platform offers a total solution for High Performance Computing including Platform Manager for cluster provisioning, monitoring and management, Platform MPI for a high performance and easy to use MPI solution, and Platform LSF for batch workload management; Platform also offers consulting, training and support to ensure your success. Our total solution provides the industry's fastest, most functional and scalable products for high performance clustering.



## Proactive monitoring

The integration of application and infrastructure management is crucial for increasing availability. Not only does it enable quick troubleshooting as described above, but Platform has gone a step further in proactively managing Platform LSF according to real-time infrastructure monitoring. By leveraging Platform Manager's alarming and automated action capabilities, the user can take steps to exclude nodes from the Platform LSF pool based on identified node problems. For example, if a system is getting too hot, or if there is an interconnect problem, the node can be removed from the job queue pool to prevent new jobs from being submitted to this node while the problem is being fixed.

In addition to supporting e-mail alerts, Platform LSF hosts can be closed in response to monitoring conditions being met – notifications of this type can occur at three customizable levels – "notice", "warning", and "alert". Alarms can be raised based on individual host thresholds or aggregate values across multiple hosts.

Cluster administrators can also set Platform LSF hosts offline when InfiniBand connections fail so that MPI jobs will continue to run without having one failing compute host working as a 'black hole' in the

queue system. Host off-lining can also be automatically triggered by the monitoring system. For example when an InfiniBand NIC goes down, Platform Manager automatically sets the Platform LSF hosts offline and notifies the administrator by email.

## Dynamic provisioning

For customers who have dynamic environments where various applications have different configuration requirements, Platform Manager can be used to dynamically provision servers to enable different applications to run in different times. The extensive command line interfaces (CLI) that Platform Manager provides can be leveraged to facilitate such dynamic use from within Platform LSF jobs. This can also facilitate refreshes of servers prior to a job run, to guarantee a known configuration, as well as a reinstall after a job has completed to erase any job data on the nodes.

If you expand an existing Platform LSF cluster (one that is not managed by Platform Manager) with new hardware with Platform Manager preinstalled, Platform Manager can set up the new servers as Platform LSF dynamic hosts. This will ensure that the addition of computing power to the old cluster does not affect the existing configuration.

# Platform™

Platform Computing is a pioneer and the global leader in High Performance Computing (HPC) management software. The company delivers integrated software solutions that enable organizations to improve time-to-results and reduce computing costs. Many of the world's largest companies rely on Platform to accelerate compute or data intensive applications and manage cluster and grid systems. Platform has over 2,000 global customers and strategic relationships with Dell™, HP, IBM®, Intel®, Microsoft®, Red Hat® and SAS®, along with the industry's broadest support for HPC applications. Building on 16 years of market leadership, Platform continues to define the HPC market. Visit [www.platform.com](http://www.platform.com).

World Headquarters  
Platform Computing Inc.  
3760 14th Avenue  
Markham, Ontario  
L3R 3T7 Canada  
Tel: +1 905 948 8448  
Fax: +1 905 948 9975  
Toll-free tel: 1 877 528 3676  
[info@platform.com](mailto:info@platform.com)

North America  
Boston: +1 781 685 4966  
Reston: +1 703 251 4850  
Detroit: +1 248 359 7820  
New York: +1 646 290 5070  
San Jose: +1 408 392 4900

Europe  
Basingstoke: +44 (0) 1256 883756  
London: +44 20 7977 1480  
Paris: +33 (0) 1 41 10 09 20  
Düsseldorf: +49 2102 61039 0  
Munich: +49 89 517397 52  
Oslo: +44 1256 883756  
[info-europe@platform.com](mailto:info-europe@platform.com)

Asia-Pacific  
Beijing: +86 10 82276000  
Xi'an: +86 029 87607400  
[asia@platform.com](mailto:asia@platform.com)  
Tokyo: +81 (0)3-6302-2901  
[info-japan@platform.com](mailto:info-japan@platform.com)  
Singapore: +65 6307 6590  
[lliew@platform.com](mailto:lliew@platform.com)